

CLAIMS

1. A nucleic acid stretch method of stretching the following single-stranded nucleic acid (1) or (2) by causing an ac electric field of a high frequency to act on said single-stranded nucleic acid (1) or (2):

(1) a single-stranded nucleic acid existing in a free form in pure water or an aqueous solution of pH 5 to 11, or

(2) a single-stranded nucleic acid existing in a form immobilized on one or both of opposing electrodes arranged facing said aqueous solution.

2. The nucleic acid stretch method according to claim 1, wherein said high frequency has a frequency of 500 kHz or higher, and a voltage is applied to give an electric field strength of 1.2 V/ μ m or higher.

3. The nucleic acid stretch method according to claim 1, wherein a distance between said opposing electrodes is set at 40 μ m or shorter.

4. The nucleic acid stretch method according to claim 1, wherein said stretch of said single-stranded nucleic acid is effected by dielectrophoresis.

5. A nucleic acid stretch system, characterized in that hybridization is conducted by using, as one of complementary strands, a single-stranded nucleic acid

stretched by a method according to claim 1.

6. A nucleic acid stretch system provided at least with a reaction well capable of storing an aqueous solution therein and a means for forming a high-frequency ac electric field in said reaction well, characterized in that a single-stranded nucleic acid existing in said reaction well is stretched under an action of said high-frequency ac electric field.

7. The nucleic acid stretch system according to claim 6, wherein said reaction well is provided with at least a pair of opposing electrode, and said single-stranded nucleic acid is immobilized at an end thereof on a surface or surfaces of one or both of said opposing electrodes.

8. The nucleic acid stretch system according to claim 7, wherein a distance between said opposing electrodes is 40 μm or shorter.

9. A nucleic acid stretch system, characterized in that using an stretched single-stranded nucleic acid as one of complementary strands, hybridization is conducted in said reaction well as described in claim 6.

10. A DNA chip characterized by use of a means for stretching a single-stranded nucleic acid, which exists in a free or immobilized form in an aqueous solution of

pH 5 to 11, under an action of a high-frequency ac electric field applied to a reaction well with pure water or said aqueous solution retained therein.